POSTER SUMMARY

PRELIMINARY RESULTS FROM RESEARCH WITH NEW HERBICIDES FOR SELECTED PROBLEM WEEDS

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Abstract

Recent herbicide research at SASRI has focused on replicated small plot trials in the field. This poster reports preliminary results from these trials investigating chemical control options for four major weed species in sugarcane: *Cynodon dactylon* (cynodon), *Rottboellia cochinchinensis* (rottboellia), *Parthenium hysterophorus* (famine weed) and *Cyperus rotundus* (rotundus). The most effective treatment tested against three of the target species was glyphosate in combination with one other chemical with a new mode of action. This combination (Code SASA127H) aimed at increasing residual activity, resulting in prolonged weed control. When compared with industry standards, Code SASA127H provided (a) prolonged cynodon control for 20 weeks, (b) equivalent control of famine weed at 12 weeks after treatment and (c) equivalent control of rottboellia at nine weeks after treatment, but with an apparent increased suppression of subsequent rotundus emergence. For rotundus control, a non-glyphosate coded product provided effective control at eight weeks after application. Although providing effective control, Code SASA127H will damage the crop. This can be minimised by directed or shielded application. For famine weed, healthy grass prevents establishment in degraded land, and could be protected by treating famine weed when grass is seasonally dormant. Results showed that Code SASA127H at eight weeks after application suppressed existing grass cover by 83% after spring rains, but by only 48% when applied before spring rains. However, grass recovered by 12 weeks after application and was not significantly different from the control, either before or after spring rains. At this time, famine weed seedling numbers were similar when sprayed with Code SASA127H before or after rains (1 seedling/15 m^2 compared with approximately 40 for the control), suggesting that recovering grass in this trial had no suppressive effect on famine weed.

Keywords: rottboellia, parthenium, cynodon, cyperus, chemical control